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QUANTITATIVE SEPARATION OF ARGON FROM SMALL QUANTITIES OF KRYPTON AND XENON BY REPEATED ADSORPTION AND DESORPTION

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This research was undertaken because of the fact that although there had been numerous previous investigations (1-6) concerned with the separation of these gases from each other, none of them had considered the problem of the separation of a large quantity of argon from small quantities of the other two rare gases.

The method suggested by Peters and Weil (6) was employed, and through the study of the isotherms of adsorption and desorption of argon and krypton at the three temperatures, minus 120, minus 100, and minus 80 degrees centigrade and pressures of from 1 to $1 \cdot 10^{-4}$ millimeters, the following conclusions were obtained:

1. At these three temperatures, all of the argon which had been adsorbed by the carbon was not desorbed, and the amount not desorbed was increased as the temperature was decreased.

2. The most rapid separation of argon and krypton can be accomplished at minus 100 degrees centigrade by carrying out consecutive adsorption and desorption of the gaseous mixture over four different carbon portions, then liberating the adsorbed gases by heating, and finally repeating these operations on all carbon portions one more time. This procedure resulted in more than 99 percent of the krypton being adsorbed on the carbon, and then all of the argon was quantitatively desorbed and pumped off.

BIBLIOGRAPHY

1. Valentiner and Schmidt, Ber. Berl. Akad., 816, 1905.

2. Dewar, Proc. Roy. Soc., XVIII, 433, 747, 1906.

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Sanitized Copy Approved for Release 2011/08/31 : CIA-RDP80-00809A000600330906-9

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3. Lepape, C. R., CLXXXVII, 231, 591, 1928.

4. Moore, Proc. Roy. Soc., London, A., LXXXI, 195, 1908

5. Aston, Proc. Roy. Soc., London, A., CIII, 462, 1923.

6. Peters and K. Weil, Z. phys. Chem., A., CXLVIII, 1930; A. ang Chem., L, 43, 1930.

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